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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,732	10/15/2001	David W. Warren	12,318	2953

7590 06/13/2003

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EXAMINER

MEDINA SANABRIA, MARIBEL

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/977,732	WARREN, DAVID W.
	Examiner Maribel Medina	Art Unit 1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 15 October 2001.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-48 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) \_\_\_\_\_ is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) 1-48 are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)                    4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ .                    6) Other: \_\_\_\_\_

**DETAILED ACTION**

**Election/Restrictions**

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, 38 and 40-41, drawn to an endothermic catalytic reaction apparatus and process, the apparatus comprising a U-shaped flow through tubular reaction chamber, a convection chamber and a radiant burner, classified in class 422, subclass 191 and class 423, subclass 650.
  - II. Claims 16-20, drawn to an endothermic catalytic reaction apparatus comprising a tubular reaction chamber, a combustion chamber and a tubular radiant burner, classified in class 422, subclass 191.
  - III. Claims 21-37, and 39, drawn to an endothermic catalytic reaction apparatus comprising a helical tubular flow through reaction chamber, a convection chamber, and a radiant burner, classified in class 422, subclass 191.
  - IV. Claims 43-48, drawn to an endothermic catalytic reaction apparatus comprising: a straight tubular outer conduit to form a reaction chamber containing a catalyst in an annular space the outer an inner conduits; and a radiant burner, classified in class 422, subclass 191.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process of claims

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40-41 can be practiced with a materially different apparatus such as the apparatus of claims 1-15, and 38, additionally the apparatus of claims 16-20 can be used in another and materially different process such as for heating and vaporizing water.

3. Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process of claims 40-41 can be practiced with a materially different apparatus such as the apparatus of claims 1-15, and 38 additionally the apparatus of claims 21-37 and 39 can be used in another and materially different process such as for heating and vaporizing water.

4. Inventions I and IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process of claims 40-41 can be practiced with a materially different apparatus such as the apparatus of claims 1-15, and 38 additionally the apparatus of claims 43-48 can be used in another and materially different process such as for heating and vaporizing water.

5. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions II and III are different since the apparatus of group II (claims 16-20) is materially different and have a different mode of operation from the apparatus of group III (claims 21-37 and 39). The apparatus of Group II has a tubular reaction chamber with two generally tubular

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legs extending in generally parallel, spaced apart relation within a combustion chamber, while the apparatus of group III has a helical tubular flow through reaction chamber disposed within a combustion chamber. Furthermore the apparatus of group II does not have a convection chamber while the apparatus of group III has one. Additionally the configuration of the burner is different in both apparatuses.

6. Inventions II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions II and IV are different since the apparatus of group II (claims 16-20) is materially different and have a different mode of operation from the apparatus of group IV (claims 43-48).

The apparatus of Group II has a tubular reaction chamber with two generally tubular legs extending in generally parallel, spaced apart relation within a combustion chamber, while the apparatus of group IV has straight tubular outer conduit to form a reaction chamber containing a catalyst in an annular space the outer an inner conduits; and a radiant burner.

7. Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions III and IV are different since the apparatus of group III (claims 21-37 and 39) is materially different and have a different mode of operation from the apparatus of group III (claims 43-48). The apparatus of group III has a helical tubular flow through reaction chamber disposed within a combustion chamber, while the apparatus of group IV has straight tubular outer conduit to form a reaction chamber containing a catalyst in an annular space the outer an inner conduits; and a radiant burner.

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8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

9. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

**Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maribel Medina whose telephone number is (703) 305-1928. The examiner can normally be reached on Monday through Friday from 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (703) 308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*Maribel Medina*  
Maribel Medina  
Examiner  
Art Unit 1754

MM  
June 3, 2003